



Our Future Water Supply Challenges and Opportunities

Joint Meeting
Broward and Palm Beach Water Resource Task
Forces
June 5, 2009

Presentation Overview

- **Population & demand projections**
- **Status of future water supply options**
 - **Conservation**
 - **Floridan Aquifer/Brackish Water**
 - **Reuse**
 - **Stormwater Capture/C-51 Concept**
- **District perspective on possible next steps in planning process**

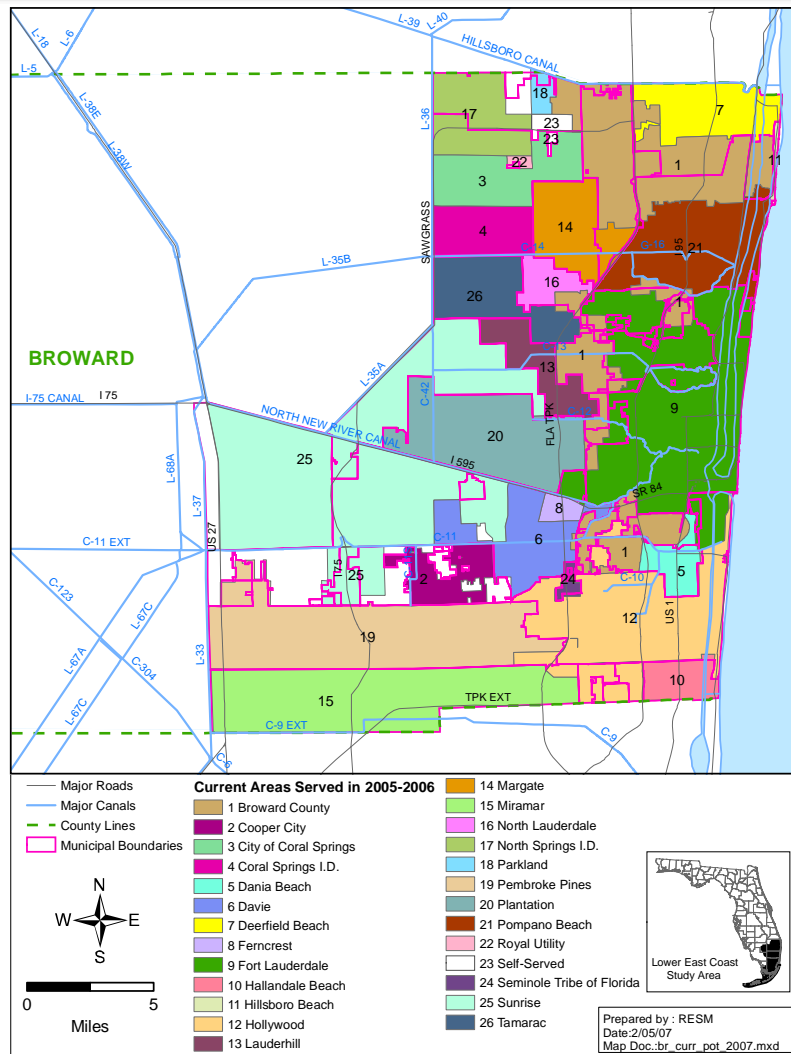


Population and Demand Projections

Carol Ann Wehle
Executive Director

Overview

Broward County Water Supply



2005-2006 Utility Service Areas in Broward County

Water Supply Utilities

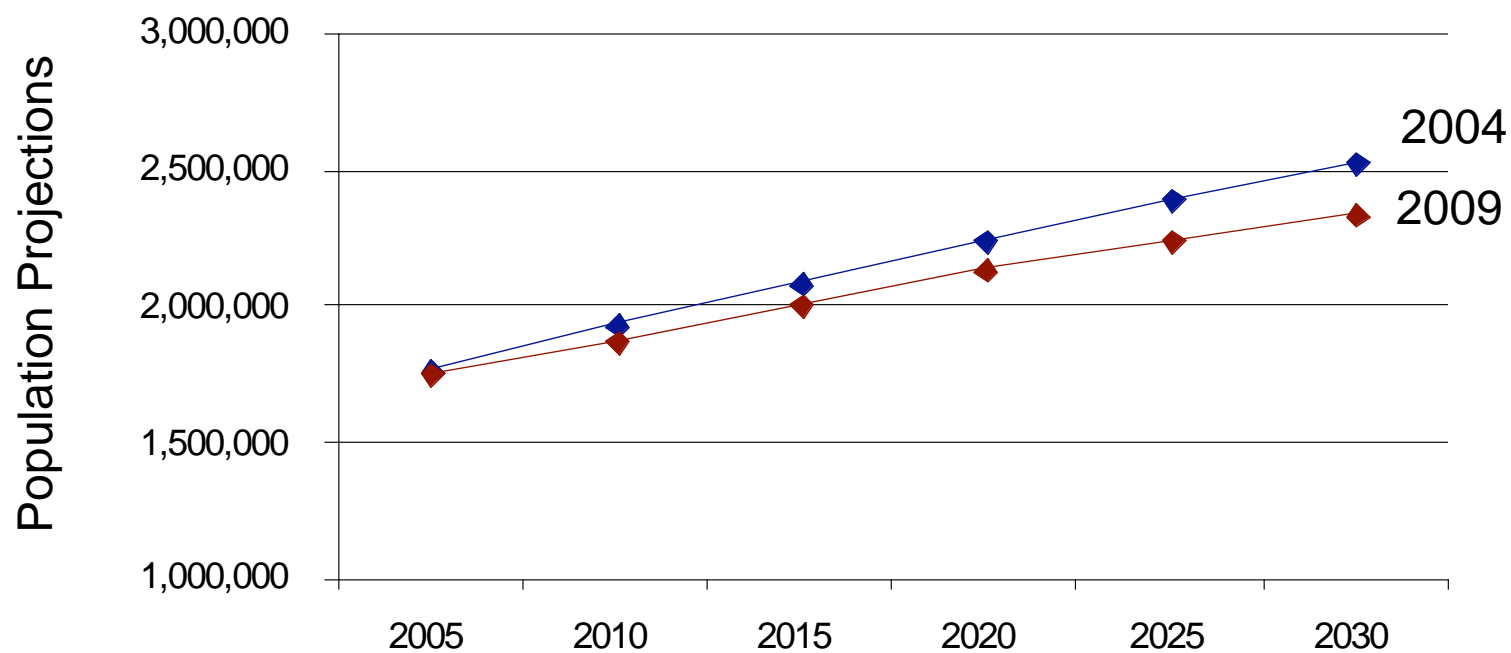
- 31 municipalities; 25 water providers

LEC Water Supply Plan Projections for 2025:

- 351 MGD – Demand
- 245 MGD – Biscayne Aquifer
- 106 MGD – Unmet needs

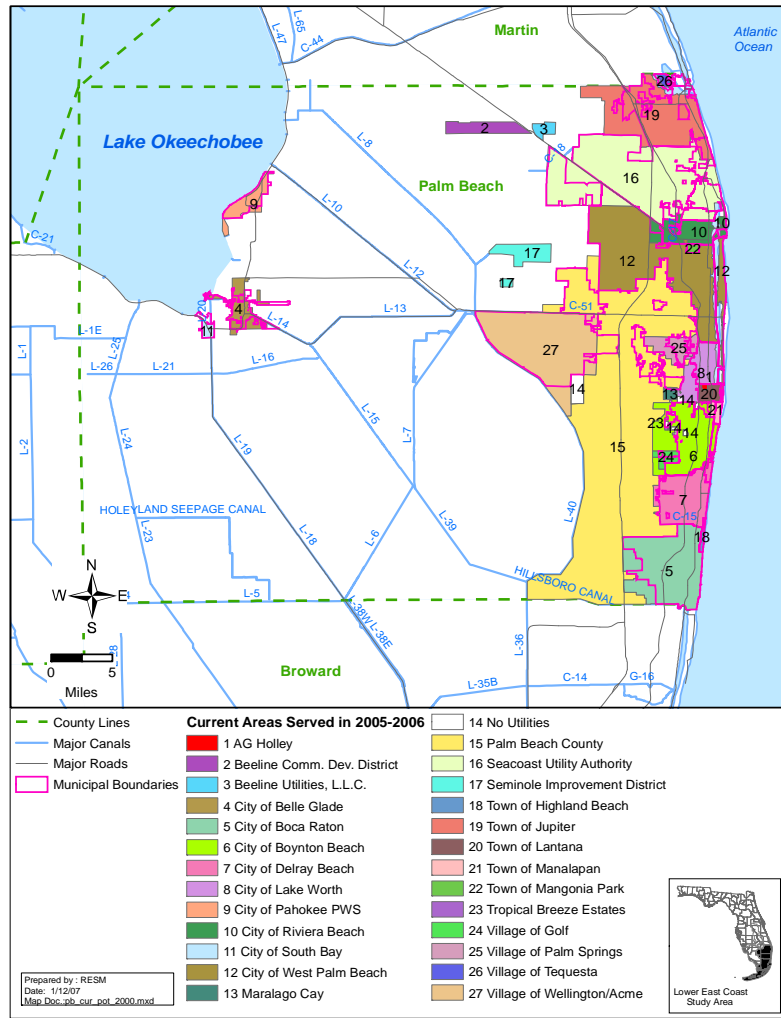
Overview

Broward Population Projections



Overview

Palm Beach County



2005 - 2006 Utility Service Areas in Palm Beach County

Water Supply Utilities

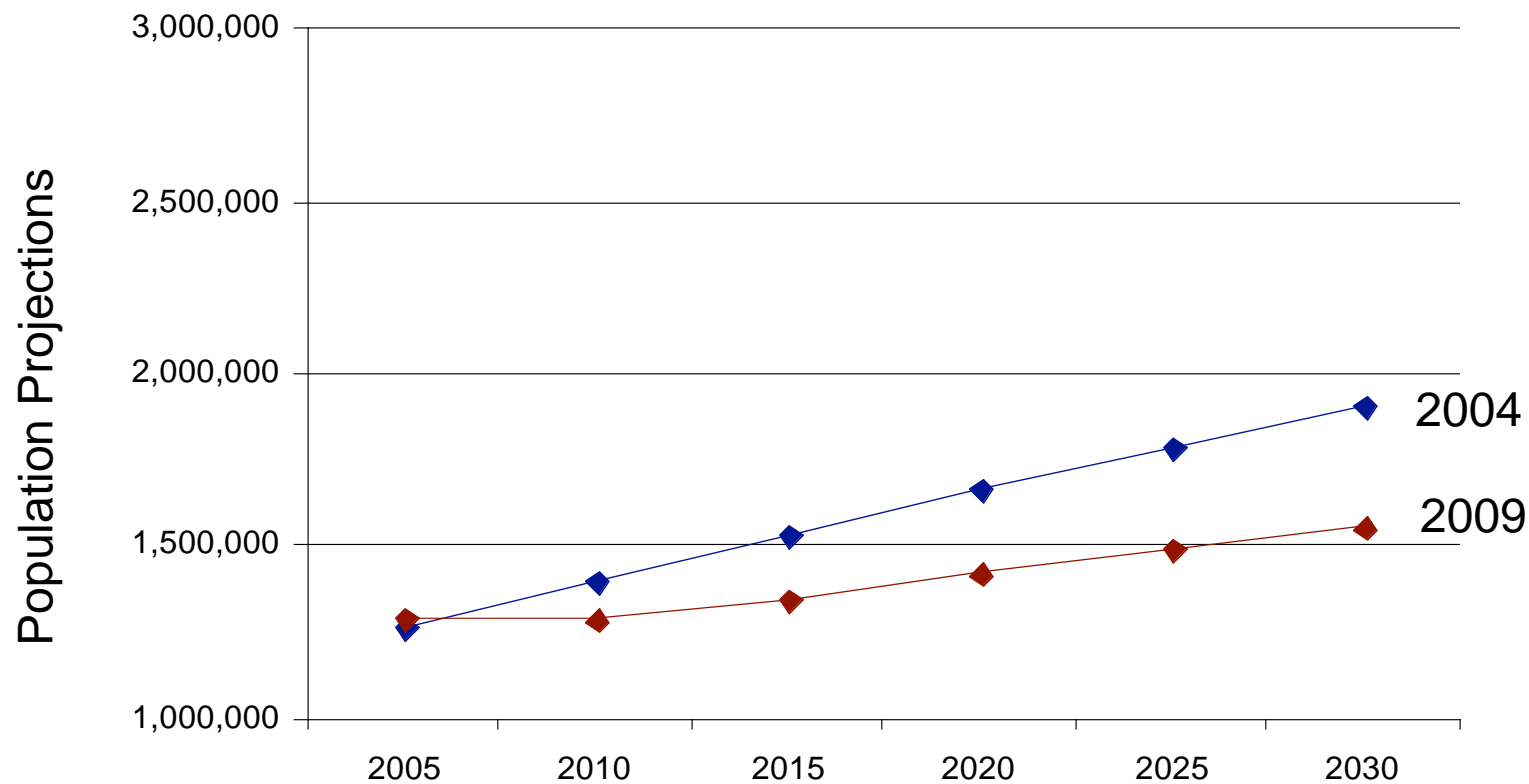
- 39 municipalities; 17 water providers

LEC Water Supply Plan Projections for 2025:

- 325 MGD – Demand
- 231 MGD – Biscayne Aquifer
- 94 MGD – Unmet needs

Overview

Palm Beach Population Projections



Overview

Future Demands Summary

Implications of projected population growth slowdown and per capita reductions:

- Preliminary calculations indicate 2035 demands will now be less than the 200 MGD identified in the LEC Plan for 2025
- Extends horizon for future infrastructure
- Regional and sub-regional projects still needed
 - Develop suite of options on parallel tracks
- Opportunities for greater savings through conservation for some utilities



Water Supply Options

Tom Olliff
Assistant Executive Director

Water Supply Options Suite of Alternatives





Water Conservation

Water Supply Options Water Conservation



- Less expensive than developing new sources
- Reduces stress on natural systems
- Easy to implement and permit
- Widely accepted by the public



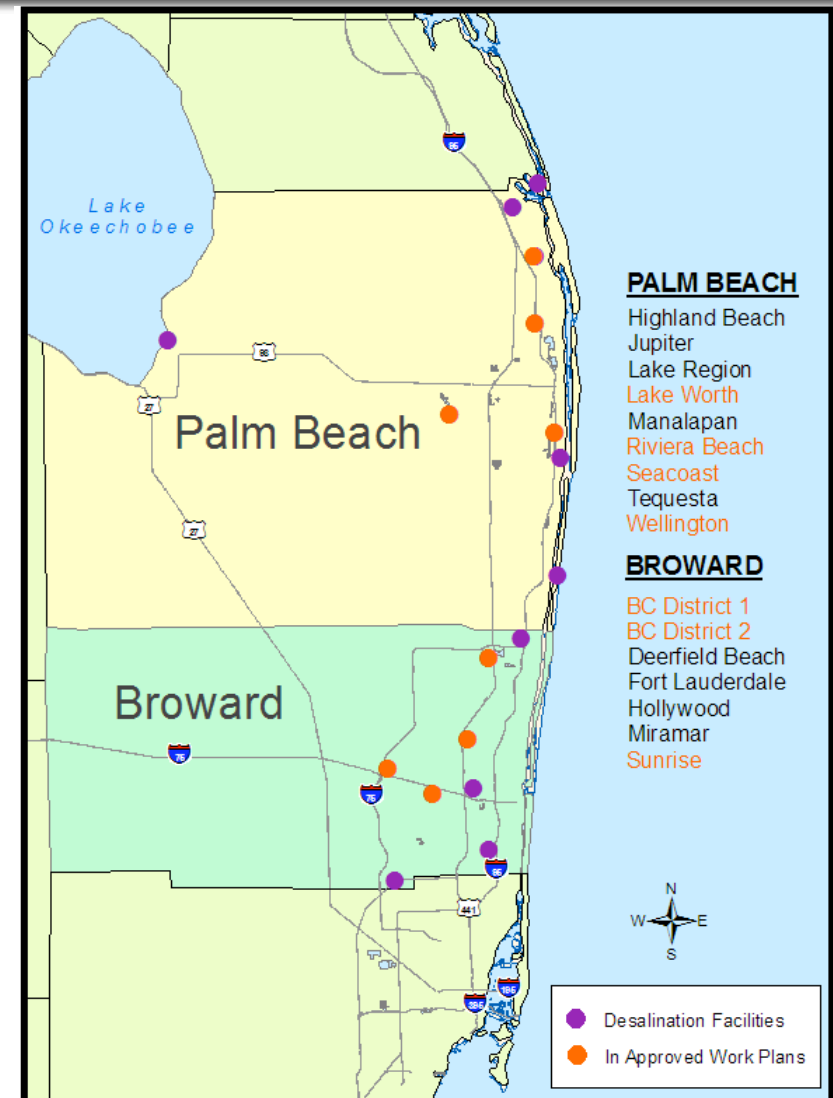
Reverse Osmosis

Water Supply Options

Brackish Water Reverse Osmosis

Local Government Work Plans include development of the Floridan Aquifer

- **Palm Beach County**
 - 5 existing Floridan plants = 29 MGD
 - 4 additional plants proposed
- **Broward County**
 - 1 existing Floridan plant = 4 MGD
 - 3 facilities under construction
 - 4 additional plants proposed
- **Considerations**
 - Floridan capacity
 - Water quality consistency





Reuse

Water Supply Options Reuse - Today



- **Palm Beach**
 - 35% reused; 76 MGD disposed
- **Broward**
 - 5% reused; 193 MGD disposed
- **Total available for reuse**
~269 MGD

Water Supply Options Reuse - Opportunities

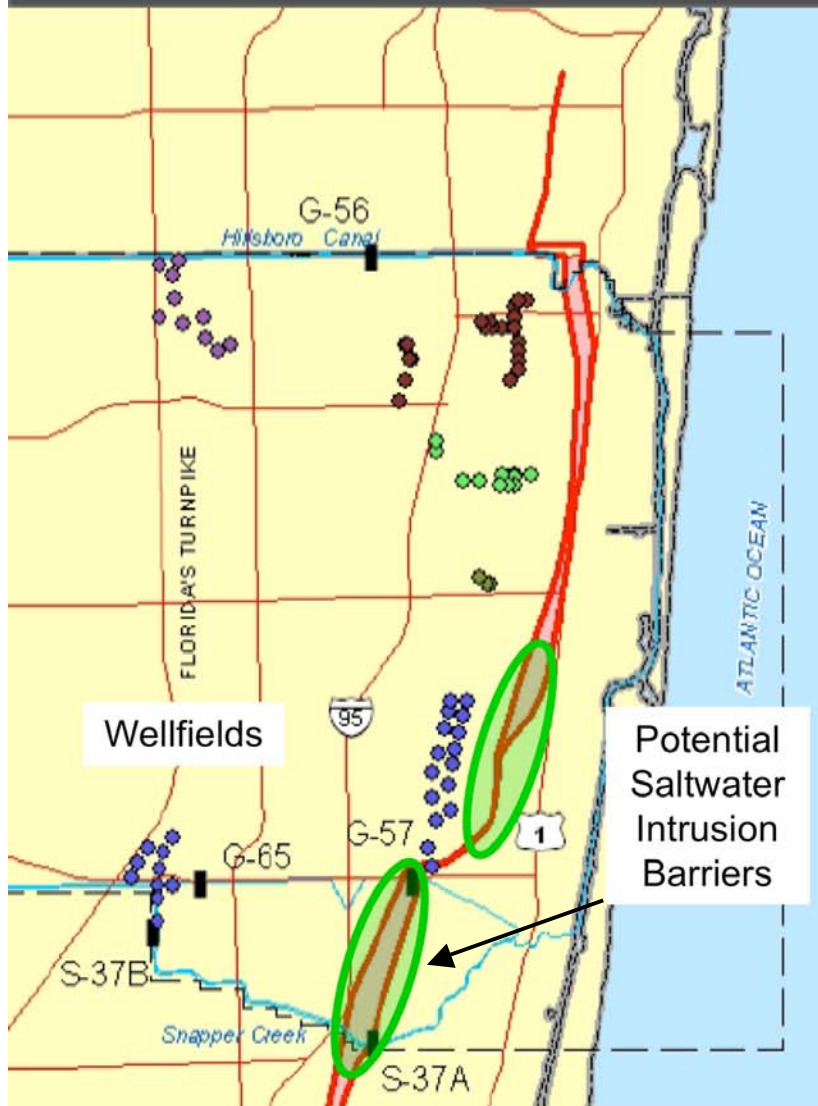


Use reclaimed water for:

- Meeting requirement of ocean outfall legislation
- Irrigation and recharge, freeing up Biscayne water for public water supply
- Creating saltwater barriers to protect existing Biscayne Aquifer wellfields
- Recharge of Floridan Aquifer

Water Supply Options

Reuse - Saltwater Intrusion Barrier Concept



- Pilot study under way
- Purpose is to create fresh water mound to impede movement of salt water inland
- Could use recharge basins or injection wells
- Successfully used in California for decades



Regional Storage

Tommy Strowd
Assistant Deputy Executive Director

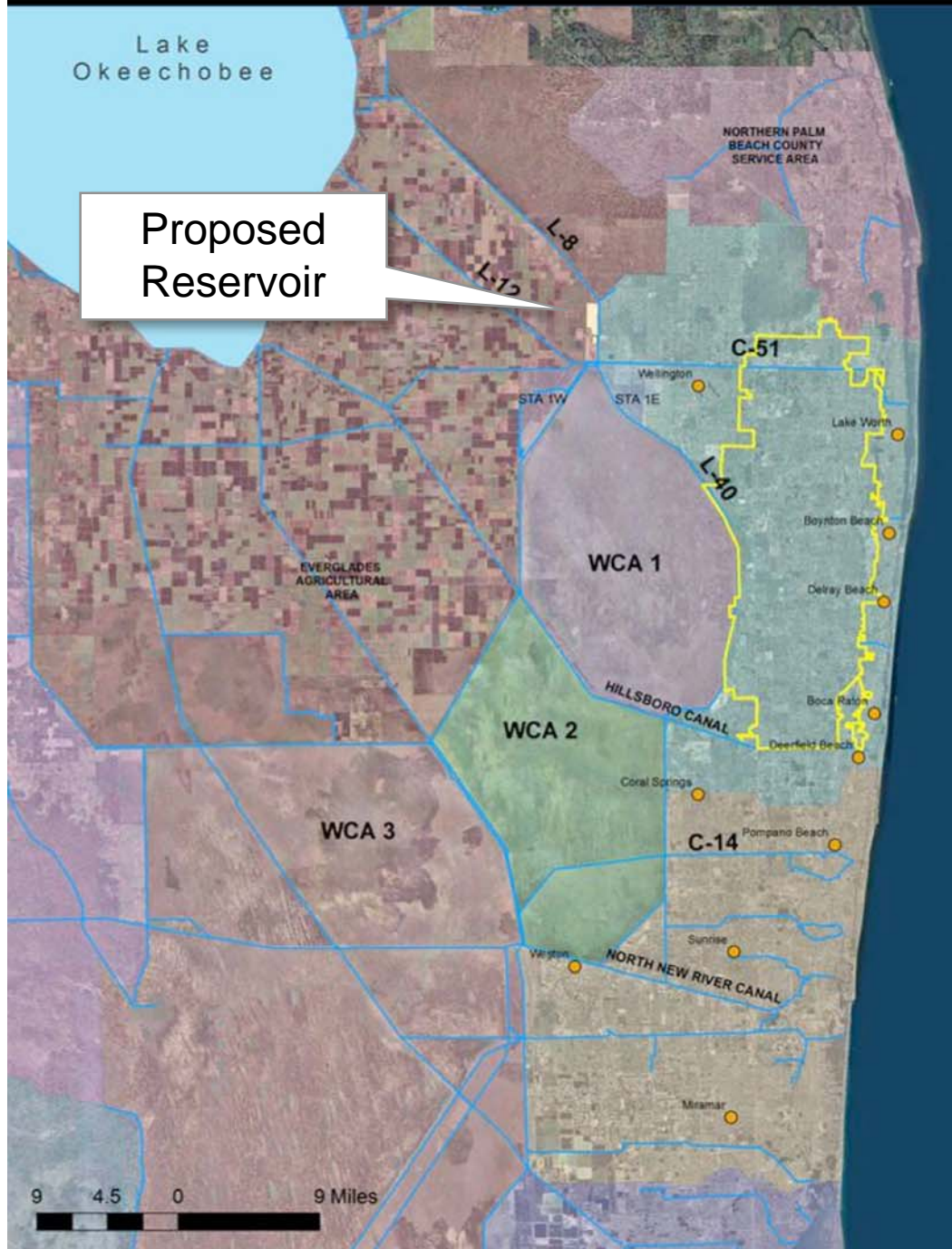
Water Supply Options Stormwater Capture / C-51

C-51 Concept

- Several utilities exploring as potential alternative water supply
- Create storage reservoir north of Water Conservation Area 1
- Capture stormwater runoff now lost to tide

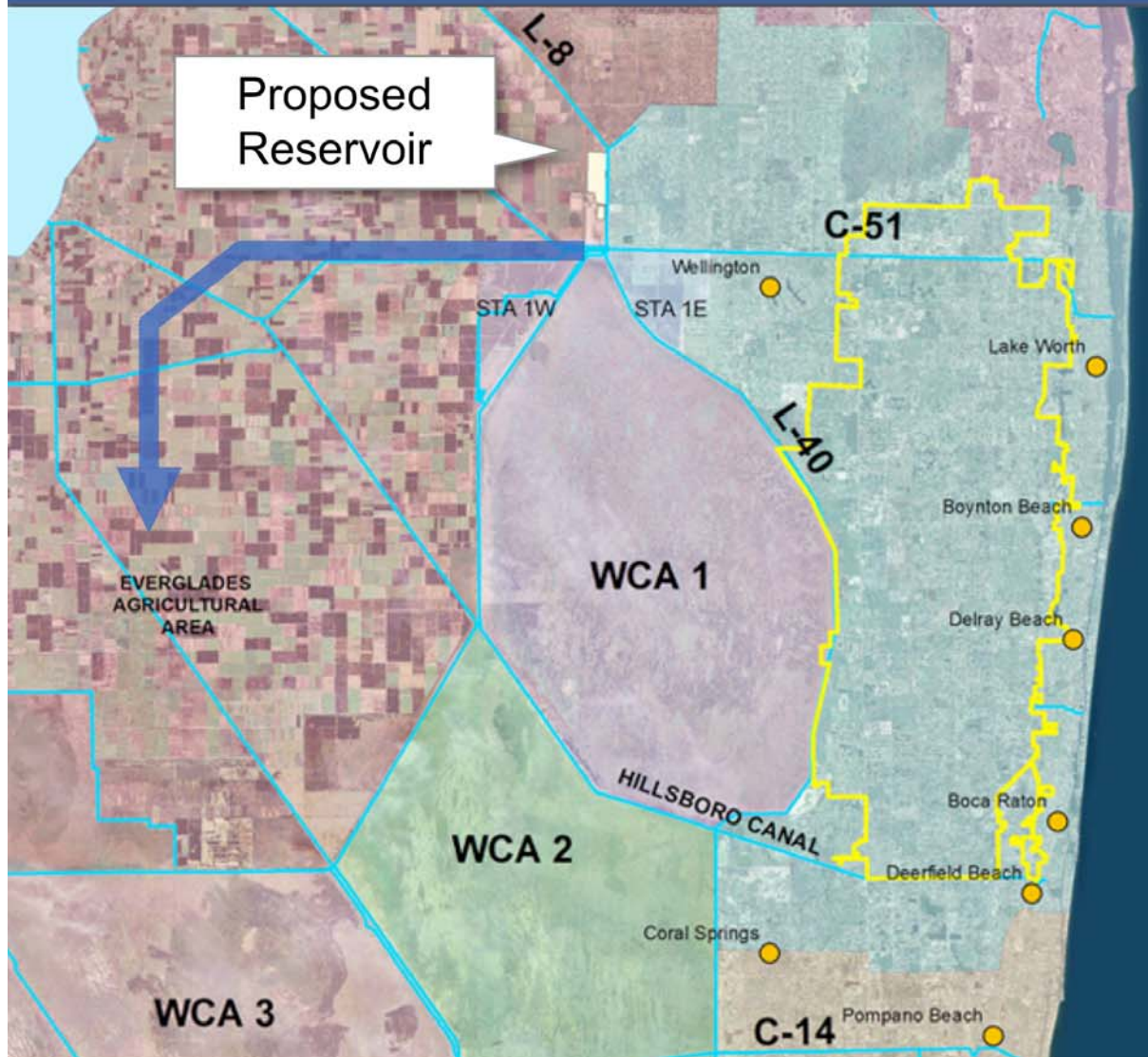


C-51 Concept Key Considerations



- **Everglades Restoration**
- **Regional Water Availability Rule**
- **Construction of a storage facility**
- **Operations & Conveyance**

C-51 Concept Considerations Everglades Restoration



- Water availability for restoration
- Federal/State Comprehensive Everglades Restoration Plan Assurances Agreement
- River of Grass project planning
- Water quality treatment

C-51 Concept Considerations

Regional Water Availability Rule



- **Purpose is to protect water for restoration of the Everglades and Loxahatchee River Watershed**
 - **No additional water available in WCA-2 to allocate south or east**
 - **Proposed concept cannot increase the direct or indirect impacts on the Everglades**
 - **Offsets must prevent impacts to the Everglades; rule does not provide for trading of water supply “credits”**

C-51 Concept Considerations

Reservoir Construction



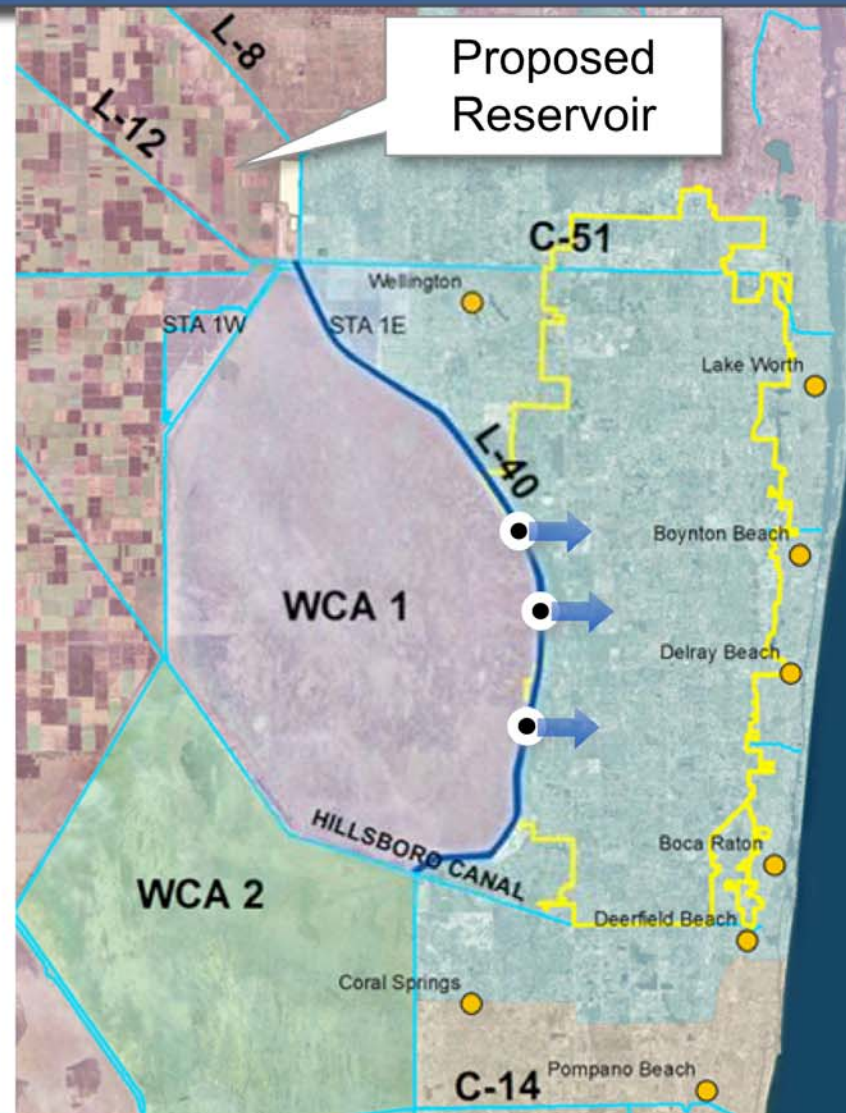
- **Coordination with other agencies**
- **Permitting and compliance requirements**
 - **Water quality**
 - **Protected species**
 - **Mitigation**
- **Capital costs**

C-51 Concept Considerations

Operations and Conveyance

Existing Facilities

- L-40 canal and structures allow flow from C-51 to Hillsboro Canal
- Borders national wildlife refuge with stringent water quality requirements
- Likely require water quality treatment or alternative conveyance options
 - Federal coordination
 - Legal requirements
 - Permitting and mitigation
 - Significant capital investment



C-51 Concept Considerations

Operations and Conveyance

Delivery within Broward

- Existing canal and structures along east side of WCA-2A (L-36 and L-35A) not designed to move water
- Would likely require significant investment in improved conveyance options





Recommendations

Future Water Supply **SFWMD Recommendations**

- **Conservation – Maximize**
- **Brackish Water – Determine capacity**
- **Reuse – Evaluate all potential uses**
- **Regional Storage / C-51 – Answer questions**



Questions?